A SUPPLEMENT TO THE INTERNATIONAL CENSUS OF THE CONIFERAE, I.

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In preparation for my forthcoming comprehensive taxonomic encyclopedia of the Coniferae a few nomenclatural changes will be made here. Further, several species names listed in my original checklist have now been published, therefore the citations of these names are listed here as well as a few corrections in citations listed in the original checklist.

The purpose of this checklist is to be as comprehensive as possible and to base taxonomic distinctions on gross morphological characteristics which can clearly be seen in the field. My own concept of a species is a taxon which is easily separated by gross morphological characteristics in the field, such as differences in growth patterns (crowns), bark, bud, leaf characteristics (shape, texture, duration, structure of the apex), male cones (number of scales, shapes of microsporophylls), female cones (arrangement,duration, umbos), seeds (shape and color) and cotyledons (number, size, apex structure). It is a combination of these characteristics that makes a species. I will expand further on this in my forthcoming monograph. I do not think a species should be based only on chemotaxonomic differences which can not be easily used on hand in the field as some botanists do. Chemotaxonomic characteristics can help a biologist to understand the biological make-up of a species, however these statistics have little value if they can not be easily and clearly defined in a consistent manner in the field without the use of a transportable laboratory.

The nomenclatural changes and new citations are as follows :

ABIES

A. delavayi (Van Tiegh.,) Franch.

This is a highly variable species in the field. Chinese and European botanists are still naming new species which are most likely based on scattered relic populations of this single species. I had originally recognized A. beshanzuensis Wu as a distinct species on the basis of its brown female cones. However, I have no idea whether this material was based on mature specimens and have serious doubts that it was a mature specimen. Typical A. delavayi has bluish-black female cones with hidden bracts,

however the bracts are yellowish at first and in some instances may give the cone a brownish cast in the immature state. The general characteristics of A. beshanzuensis well agree with typical A. delavayi.

A similar case is that of Pseudotsuga sinensis Dode with scattered populations growing in Eastern China and Taiwan, which were onced viewed as separate species. However, when a wide range of specimens are available to examine it can clearly be seen that there is really only one variable species.

A. pindrow var. brevifolia Dallim. et Jacks. "Gamble Fir" Handb. Conif. 1: 126, f.25 (1923) = A. gamblei Hickel, Bull. Dendr. Soc. France. 37 (1939).

A distinct variant with short spirally arranged leaves and reddish-brown branchlets from N. India (Garwhal). Recognized as a distinct species by Keith Rushforth (E).

A. recurvata var. ernestii (Rehd.) Rushf., Not. R.B.G. Edinb. 41(3): 539 (1984). This taxon was formerly recognized as A. chensiensis var. ernestii (Rehd.) Liu. However, its general characteristics agree with A. recurvata Mast. in the color and size of the female cone. The leaves of this taxon are different from the typical variety in that the apex is notched and they are less recurved.

DACRYDIUM

D. cornwallii De Laub., Fl. Males. (1986, in press). Formerly listed as D. nidulum var. araucarioides De Laub., though very distinct in its Araucaria-like foliage.

DECUSSOCARPUS

D. nagi var. formosensis (Dummer) Silba, comb. nova. "Kankao Decussoberry".

=Podocarpus formosensis Dummer, Gard. Chron. III. 52: 295 (1912).

A distinct variant from S. Taiwan with narrow lanceolate leaves.

JUNIPERUS

J. barbadensis var. urbaniana (Pilg. et Ekm.) Silba, Phytologia 56(5): 340 (1984).

A distinct variant with quadrangular branchlet systems and sharply acute leaves with an acuminate apex. Native to S.W.

Haiti and W. Dominican Republic, possibly endangered.

J. flaccida var. martinezii (Perez de la Rosa) Silba, comb. nova.
=J. martinezii Perez de la Rosa, Phytologia 57(2): 81, f.1 (1985). A scarcely distinct taxon named from Jalisco, very similar to typical J. flaccida Schl. in general characteristics. Said to have gray-green foliage, however collections of J. flaccida from N. Mexico also have grayish foliage. The only consistent difference seems to be the smaller female cone with fewer seeds.

J. sabinioides (H.B.K.) Nees, Linnea 19: 706 (1847), replaces the name J. monticola Mart. according to Johnston in Taxon 34: 505 (1985).

PICEA

P. maximowiczii var. senanensis Hayashi, was first validly published in Tax. Stud. Jap. Conif. 55 (1960).

P. shirasawae Hayashi, was first validly published in Tax. Stud. Jap. Conif. 55 (1960).

PINUS

P. brutia var. eldarica (Medw.) Silba, comb. nova.
=P. eldarica Medw., Act. Hort. Tifl. 6.2. 21, f. (1903).
This combination was not validly published by Magini et Tulstr. in FAO For. Develop. Pap. 5 (1955). This taxon differs mainly in its shorter stiffer leaves.

P. brutia var. pithyusa (Stev.) Silba, comb. nova
=P. pithyusa Stev., Bull. Soc. Hist. Nat. Moscou 11: 49 (1838).
This combination was not validly published by Magini et Tulstr. (1955, l.c.). A distinct variant with longer, more twisted leaves from a distinct geographic region.

P. culminicolor var. discolor (Bail. et Hawkws.) Silba, Phytologia 56(7): 490 (1985). Formerly included with P. culminicola Andr. et Beam. or with P. cembroides Zucc. ex K. Bay.. A distinct variant which is more tree-like rather than a shrub and it is often dioecious.

P. culminicolor var. johannis (M.F. Rob.) Silba, Phytologia 56 (7): 491 (1985). Formerly included with P. culminicola or with P. cembroides. A distinct variant with loose flaky bark and trees are usually strongly three-leaved.

P. occidentalis var. baorucoensis Silba, var. nova
"Hispaniola Pine"

Arbor ad 10 m. alta. Vaginae persistens, 10-11 mm. longae. Folia 5 in fasciculo, 13-15.5 cm. longa, 1.2 mm. lata, rigida. Strobili feminei ovoidei-conici, 6.5-7 cm. longi; apophyses ovata, tumidus, prominentis.

Dominican Republic : Pedernales Prov., Sierra de Baoruco, near Aceitillar, 5-14-1976, W.S. Judd 1487 (Holotype : A); Santiago Prov., La Diferencia, 625 m. alt., 6-7-1976, W.S. Judd 1349 (Paratype : A). Haiti : Fond Varettes, near Mission, 1000 m., 4-21-1920, E.C. Leonard 3767 (GH).

A distinct variant with needles consistently in fives, or rarely fours, and by its female cones with swollen, sometimes protuberant apophses with a fine, upcurved, prominent spine.

P. patula var. jaliscana (Perez de la Rosa) Silba, comb. nova.
=P. jaliscana Perez de la Rosa, Phytologia 54(5): 290-291, f. 1 (1983).

A scarcely distinct taxon, differing in its grayish-red bark divided into plates and its grayish-brown, non-curved female cones. The general characteristics of this taxon, including crown characteristics and foliage well agree with typical P. patula Schiede et Deppe.

P. pentaphylla var. himeokomatsu (Miyabe et Kudo) Makino, was first validly published in Illustr. Fl. Nippon. 903, pl. 2709 (1940).

P. pseudostrobus var. alpulcensis (Lindl.) Mart.
P. estevesii (Mart.) Perry was reduced to synonymy with this taxon by Stead and Styles in Bot. J. Linn. Soc. 89(3): 249-275 (1984) on the basis of quantitative morphological data.

P. wangii Hu et Cheng.
= P. kwangtungensis Chun et Tsiang

A variable taxon endemic to Yunnan, Kwangtung, Kwangsi and Hunan. The taxon named P. kwangtungensis formerly included under P. morrisonicola Hayata, is identical to typical P. wangii in its short flattened leaves. Pinus wangii may only be a variant of the much confused and rarer P. fenzeliana Hand. -Mzt. which differs in its longer, finer leaves.

PODOCARPUS

P. atjehensis (Wassch.) De Laub., was published in Blumea 30 (2): 271 (1985).

P. borneensis De Laub., l.c., 266 (1985).

P. brassii var. humilis De Laub., l.c., 274 (1985).

P. confertus De Laub., l.c., 271 (1985).

P. degeneri (Gray) De Laub., l.c., 271 (1985).

P. fasciculus De Laub., l.c., 277 (1985).

P. globulus De Laub., l.c., 269 (1985).

P. grayi De Laub., l.c., 275 (1985).

P. hispaniolensis De Laub., Moscosoa 3: 149-150 (1984).

P. insularis De Laub., Blumea 30(2): 268 (1985).

P. laubenfelsii Tiong, Blumea 29(2): 523 (1984).

P. micropedunculatus De Laub., Blumea 30(2): 268 (1985).

P. rubens De Laub., l.c., 266 (1985).

P. smithii De Laub.,l.c., 257 (1985).

P. spathoides De Laub., l.c., 267 (1985).

P. subtropicalis De Laub., l.c., 277 (1985).

P. transiens (Pilg.) De Laub., l.c., 259 (1985).

PSEUDOLARIX

P. amabilis (Nelson) Rehder is the correct name for the "Golden Larch" as stated in Taxon 29(2-3): 315-317 (1980), and not P. kaempferi (Lindl.) Gord. as suggested by Bailey in Hortus Third (1979). The name published by Gordon in Pinetum : 292 (1858) is a nomen confusum.

TAXODIUM

T. distichum var. imbricarium (Nutt.) Croom, Cat. Pl. New. Bern, N.C. 30 (1837) replaces the name T. distichum var. nutans Sweet which is a nomen confusum according to Watson

in Taxon 34: 506-509 (1985).

TSUGA

Additional notes on T. argyrophylla (Chun et Kuang) De Laub. et Silba. This taxon was formerly classified in its own genus (Cathaya). Although it is relatively distinct from most other Tsuga species, let us consider the related T. mertensiana (Bong.) Carr. which has juvenile leaves in seedlings that are relatively long for a Tsuga species. Also, T. mertensiana unlike any other Tsuga has quadrangular leaves that are spirally arranged, therefore the distinctions between T. argyrophylla and other Tsuga species are not much greater than those of T. mertensiana when compared to other Tsuga species.De Laubenfels (pers. comm., 1984) states that T. argyrophylla should be placed in the same section of Tsuga (hesperopeuce) that T. mertensiana is in. Gaussen (Trav. Lab. For. Toul. II. 1966) recognized close affinities in pollen structures between Cathaya and Tsuga.

Additional Note

Many Mexican botanists have not excepted the name Cupressus lusitanica Mill. for the widespread species of Cupressus in Mexico and the trees long cultivated in Portugal. De Laubenfels explains (pers. comm., 1984) that most Cupressus in Mexico grow in sunny locations, however there are some populations of this widespread weeping cypress that grow in the shade in Mexico. De Laubenfels suggests that the trees grown in Portugal were probably collected from trees growing in shaded areas in Mexico. Therefore, since C. lusitanica more commonly grows in the sunny locations in Mexico it seems probable that most Mexican botanists have not had the opportunity to compare material growing in the rarer shaded areas to material in Portugal. I do not believe there is any significant taxonomic differences in the shady or sunny populations of Cupressus in Mexico and see no reason why the name C. lusitanica Mill. should not be accepted for the widespread species in Mexico.